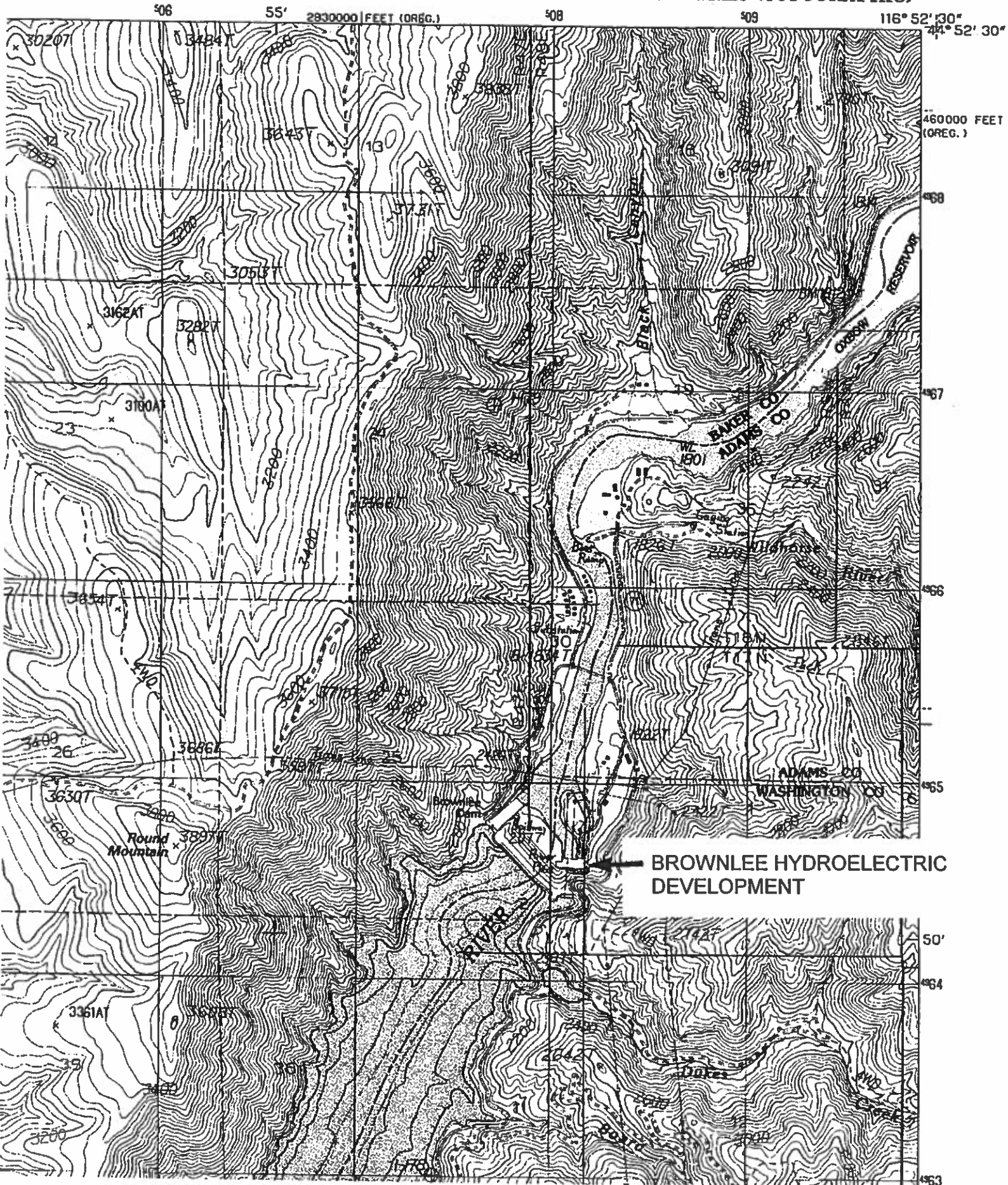


BROWNLEE DAM QUADRANGLE
OREGON - IDAHO
7.5 MINUTE SERIES (TOPOGRAPHIC)



DISCHARGE POINTS, ALL
DISCHARGES

EPA NPDES PERMIT
No. ID 002090-7

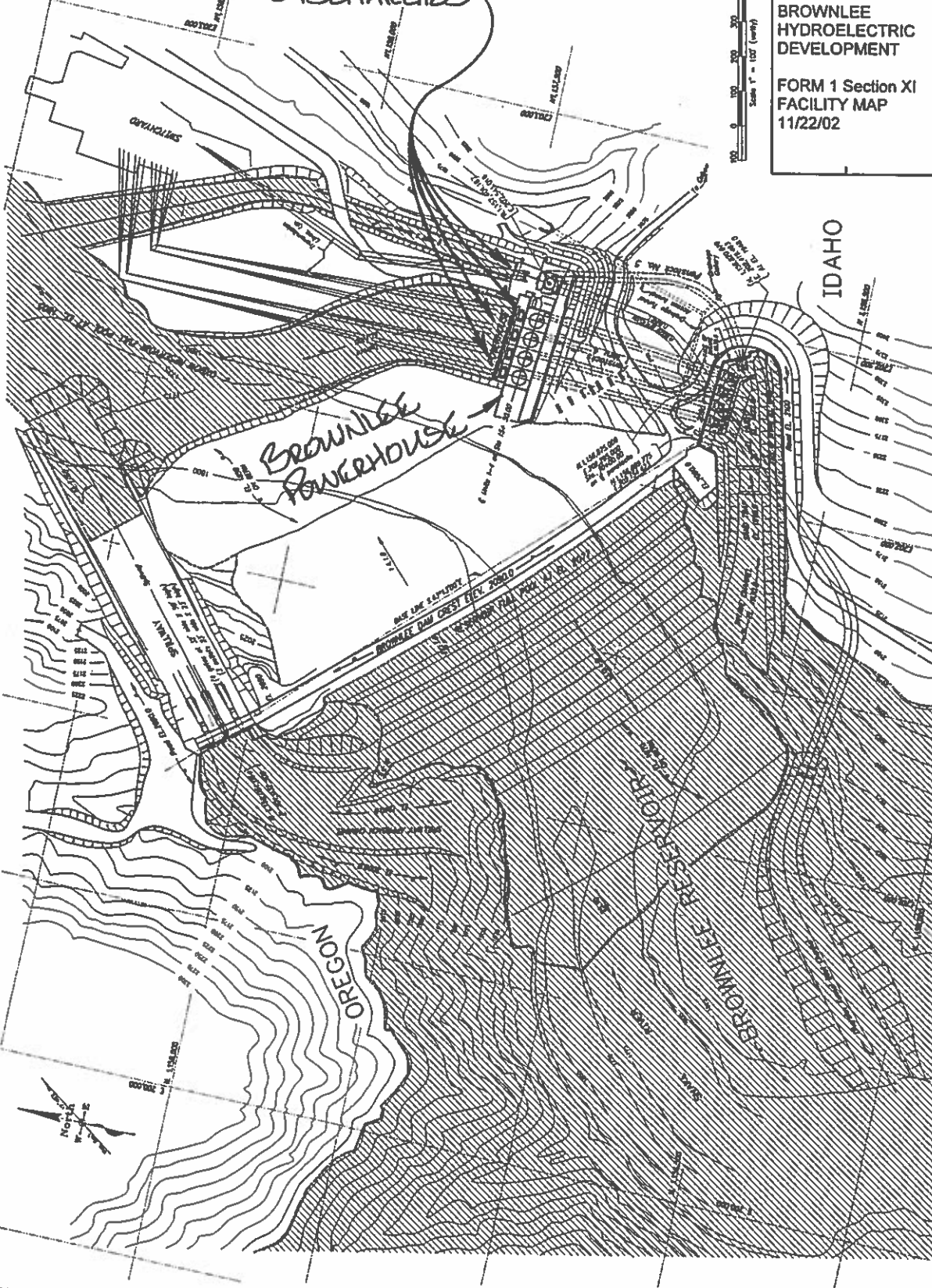
BROWNLEE
HYDROELECTRIC
DEVELOPMENT

FORM 1 Section XI
FACILITY MAP
11/22/02



IDAHO

Brownlee
Powerhouse



Please type or print in the unshaded areas only

EPA ID Number (copy from Item 1 of Form 1)

ID 002090-7

Form Approved. OMB No. 2040-0086
Approval expires 5-31-92.Form
2E
NPOES**Facilities Which Do Not Discharge Process Wastewater****I. Receiving Waters**

For this outfall, list the latitude and longitude, and name of the receiving water(s).

Outfall Number (list)	Latitude			Longitude			Receiving Water (name)
	Deg	Min	Sec	Deg	Min	Sec	
001 - 005	44	50	13	116	53	50	SNAKE RIVER

II. Discharge Date (If a new discharger, the date you expect to begin discharging)**III. Type of Waste****A. Check the box(es) indicating the general type(s) of wastes discharged.**☐

Sanitary Wastes

☐

Restaurant or Cafeteria Wastes

☒

Noncontact Cooling Water

☐Other Nonprocess
Wastewater (Identify)**B. If any cooling water additives are used, list them here. Briefly describe their composition if this information is available.****IV. Effluent Characteristics****A. Existing Sources** — Provide measurements for the parameters listed in the left-hand column below, unless waived by the permitting authority (see instructions).**B. New Dischargers** — Provide estimates for the parameters listed in the left-hand column below, unless waived by the permitting authority. Instead of the number of measurements taken, provide the source of estimated values (see instructions).

Pollutant or Parameter	(1) Maximum Daily Value (include units)		(2) Average Daily Value (last year) (include units)		(3) Number of Measurements Taken (last year)	(4) Source of Estimate (if new discharger)
	Mass	Concentration	Mass	Concentration		
Biochemical Oxygen Demand (BOD)						
Total Suspended Solids (TSS)						
Fecal Coliform (if believed present or if sanitary waste is discharged)						
Total Residual Chlorine (if chlorine is used)						
Oil and Grease		10 mg/L		10 mg/L		Nat'l Std
*Chemical oxygen demand (COD)						
*Total organic carbon (TOC)						
Ammonia (as N)						
Discharge Flow	Value 16 MGD		8.2 MGD		12	
pH (give range)	Value 6.0 - 9.0		8.2 S.U.		12	
Temperature (Winter)	Inflow temp +6 °C		16 °C		6	
Temperature (Summer)	Inflow temp +6 °C		20 °C		6	

*If noncontact cooling water is discharged

V. Except for leaks or spills, will the discharge described in this form be intermittent or seasonal?
If yes, briefly describe the frequency of flow and duration.

☐ Yes ☒ No

VI. Treatment System (Describe briefly any treatment system(s) used or to be used)

VII. Other Information (Optional)

Use the space below to expand upon any of the above questions or to bring to the attention of the reviewer any other information you feel should be considered in establishing permit limitations. Attach additional sheets, if necessary.

VIII. Certification

I certify under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gather and evaluate the information submitted. Based on my inquiry of the person or persons who manage the system, or those persons directly responsible for gathering the information, the information submitted is to the best of my knowledge and belief, true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations.

A. Name & Official Title

Darwin D. Pugmire, Manager, Power Production

B. Phone No. (area code
& no.)
208-388-2553

C. Signature



D. Date Signed

4-18-03

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Approval expires 5-31-92.Form
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NPDES**Facilities Which Do Not Discharge Process Wastewater****I. Receiving Waters**

For this outfall, list the latitude and longitude, and name of the receiving water(s).

Outfall Number (list)	Latitude			Longitude			Receiving Water (name)
	Deg	Min	Sec	Deg	Min	Sec	
006	44	50	13	116	53	50	SNAKE RIVER

II. Discharge Date (If a new discharger, the date you expect to begin discharging)**III. Type of Waste**

A. Check the box(es) indicating the general type(s) of wastes discharged.



Sanitary Wastes



Restaurant or Cafeteria Wastes



Noncontact Cooling Water



Other Nonprocess Wastewater (Identify)

Units 1-4 Power

Plant Sump,

B. If any cooling water additives are used, list them here. Briefly describe their composition if this information is available. See S. VII

IV. Effluent Characteristics

A. Existing Sources — Provide measurements for the parameters listed in the left-hand column below, unless waived by the permitting authority (see instructions).

B. New Dischargers — Provide estimates for the parameters listed in the left-hand column below, unless waived by the permitting authority. Instead of the number of measurements taken, provide the source of estimated values (see instructions).

Pollutant or Parameter	(1) Maximum Daily Value (include units)		(2) Average Daily Value (last year) (include units)		(3) Number of Measurements Taken (last year)	(4) Source of Estimate (if new discharger)
	Mass	Concentration	Mass	Concentration		
Biochemical Oxygen Demand (BOD)						
Total Suspended Solids (TSS)						
Fecal Coliform (if believed present or if sanitary waste is discharged)						
Total Residual Chlorine (if chlorine is used)						
Oil and Grease		10 mg/L		10 mg/L	4, 1/qtr	Natl Std
*Chemical oxygen demand (COD)						
*Total organic carbon (TOC)						
Ammonia (as N)						
Discharge Flow	Value 0.6 MGD (see S.VII)		0.24 MGD		12	
pH (give range)	Value 6.0 - 9.0		8.2		12	
Temperature (Winter)	Inflow temp +6 °C		12 °C		6	
Temperature (Summer)	Inflow temp +6 °C		16 °C		6	

*If noncontact cooling water is discharged

V. Except for leaks or spills, will the discharge described in this form be intermittent or seasonal?
If yes, briefly describe the frequency of flow and duration.

☐ Yes ☒ No

VI. Treatment System (Describe briefly any treatment system(s) used or to be used)

VII. Other Information (Optional)

Use the space below to expand upon any of the above questions or to bring to the attention of the reviewer any other information you feel should be considered in establishing permit limitations. Attach additional sheets, if necessary.

Discharge No. 006 is the pumped discharge from the Units 1 – 4 powerhouse sump. (There are two, connected, powerhouses at Brownlee. The first powerhouse, containing turbine-generator units 1-4, was constructed with the dam between 1955 and 1959. The second powerhouse, containing Unit 5, was constructed between 1976 and 1980.) The sumps collect all of the leakage from the upstream reservoir through the dam into the powerhouse, the leakage into the powerhouse from the downstream river, leakage from the turbine shaft packing, from the penstock couplings, and from the draft tube drains.

All of the flow into the sump is initially uncontaminated reservoir water. Although there is opportunity for contamination of the sump water via the plant floor drains and turbine pits, the risk of a significant amount of contaminant entering the plant sump is minimal. Additionally, the sump contains oil sensors which disable the discharge pumps in the event of an oil spill or accumulation in the sump.

A relatively high discharge allowance is proposed for the Units 1 – 4 sump because there are periods when the flow through this sump is much greater than the average. When a turbine is out of service for maintenance or repairs, the leakage into the dewatered penstock, turbine spiral case, and draft tube is discharged via the plant sump. This leakage, which comes both from the reservoir above the spiral case, and from the draft tube gate on the outlet end of the draft tube, can be multiples higher than the typical leakage into the sump. Please note that higher sump flows do not result in any greater pollution discharge.

VIII. Certification

I certify under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gather and evaluate the information submitted. Based on my inquiry of the person or persons who manage the system, or those persons directly responsible for gathering the information, the information submitted is to the best of my knowledge and belief, true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations.

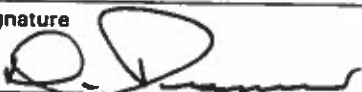
A. Name & Official Title

Darwin D. Pugmire, Manager, Power Production

B. Phone No. (area code & no.)

208-388-2553

C. Signature



D. Date Signed

4-18-03

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NPDES**Facilities Which Do Not Discharge Process Wastewater****I. Receiving Waters**

For this outfall, list the latitude and longitude, and name of the receiving water(s).

Outfall Number (list)	Latitude			Longitude			Receiving Water (name)
	Deg	Min	Sec	Deg	Min	Sec	
007	44	50	13	116	53	50	SNAKE RIVER

II. Discharge Date (If a new discharger, the date you expect to begin discharging)**III. Type of Waste**

A. Check the box(es) indicating the general type(s) of wastes discharged.



Sanitary Wastes



Restaurant or Cafeteria Wastes



Noncontact Cooling Water

Other Nonprocess Wastewater (identify) **Unit 5 Power Plant sump, see**

B. If any cooling water additives are used, list them here. Briefly describe their composition if this information is available.

S. VII

IV. Effluent Characteristics

A. Existing Sources — Provide measurements for the parameters listed in the left-hand column below, unless waived by the permitting authority (see instructions).

B. New Dischargers — Provide estimates for the parameters listed in the left-hand column below, unless waived by the permitting authority. Instead of the number of measurements taken, provide the source of estimated values (see instructions).

Pollutant or Parameter	(1) Maximum Daily Value (include units)		(2) Average Daily Value (last year) (include units)		(3) Number of Measurements Taken (last year)	(4) Source of Estimate (if new discharger)
	Mass	Concentration	Mass	Concentration		
Biochemical Oxygen Demand (BOD)						
Total Suspended Solids (TSS)						
Fecal Coliform (if believed present or if sanitary waste is discharged)						
Total Residual Chlorine (if chlorine is used)						
Oil and Grease		10 mg/L				Natl Std.
*Chemical oxygen demand (COD)						
*Total organic carbon (TOC)						
Ammonia (as N)						
Discharge Flow	Value 0.1 MGD (see s. VII)		0.05 MGD		12	
pH (give range)	Value 6.0 - 9.0		8.2 S.U.		12	
Temperature (Winter)	Inflow temp +6 °C		12 °C		6	
Temperature (Summer)	Inflow temp +6 °C		16 °C		6	

*If noncontact cooling water is discharged

V. Except for leaks or spills, will the discharge described in this form be intermittent or seasonal?
If yes, briefly describe the frequency of flow and duration.

☐ Yes ☒ No

VI. Treatment System (Describe briefly any treatment system(s) used or to be used)

VII. Other Information (Optional)

Use the space below to expand upon any of the above questions or to bring to the attention of the reviewer any other information you feel should be considered in establishing permit limitations. Attach additional sheets, if necessary.

Discharge No. 007 is the pumped discharge from the Unit 5 powerhouse sump. (There are two, connected, powerhouses at Brownlee. The first powerhouse which contains Units 1-4 was constructed with the dam between 1955 and 1959. The Unit 5 powerhouse was constructed between 1976 and 1980.) The sumps collect all of the leakage from the upstream reservoir through the dam into the powerhouse, the leakage into the powerhouse from the downstream river, leakage from the turbine shaft packing, from the penstock couplings, and from the draft tube drains.

All of the flow into the sump is initially uncontaminated reservoir water. Although there is opportunity for contamination of the sump water via the plant floor drains and turbine pit, the risk of a significant amount of contaminant entering the plant sump is minimal. Additionally, the sump contains oil sensors which disable the discharge pumps in the event of an oil spill or accumulation in the sump.

A relatively high discharge allowance is proposed for the Unit 5 sump because there are periods when the flow through this sump is much greater than the average. When the turbine is out of service for maintenance or repairs, the leakage into the dewatered penstock, turbine spiral case, and draft tube is discharged via the plant sump. This leakage, which comes both from the reservoir above the spiral case, and from the draft tube gate on the outlet end of the draft tube, can be multiples higher than the typical leakage into the sump. Please note that higher sump flows do not result in any greater pollution discharge.

VIII. Certification

I certify under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gather and evaluate the information submitted. Based on my inquiry of the person or persons who manage the system, or those persons directly responsible for gathering the information, the information submitted is to the best of my knowledge and belief, true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations.

A. Name & Official Title

Darwin D. Pugmire, Manager, Power Production

B. Phone No. (area code & no.)
208-388-2553

C. Signature



D. Date Signed

4/18-03